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SEQUENCE LISTING

<110> Bennett, Robert P.

<120> Methods and Compositions for the Production, Identification and Purification of Fusion Proteins

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<140> 10/612,410

<141> 2003-07-03

<150> 60/393,756

<151> 2002-07-08

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<150> 60/417,172

<151> 2002-10-10

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<213> Klebsiella pneumoniae

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Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala
35 40 45

Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Val
50 55 60

Gly Asp Thr Leu Met Thr Leu Ala
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<210> 7
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<212> PRT
<213> Mus musculus

<400> 7

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Phe Phe Glu Leu Asn Gly Gln Leu Arg Ser Ile Leu Val Lys Asp Thr
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Gln Ala Met Lys Glu Met His Phe His Pro Lys Ala Leu Lys Asp Val
35 40 45

Lys Gly Gln Ile Gly Ala Pro Met Pro Gly Lys Val Ile Asp Ile Lys
50 55 60

Val Ala Ala Gly Asp Lys Val Ala Lys Gly Gln Pro Leu Cys Val Leu
65 70 75 80

Ser Ala Met Lys Met Glu Thr Val Val Thr Ser Pro Met Glu Gly Thr
85 90 95

Ile Arg Lys Val His Val Thr Lys Asp Met Thr Leu Glu Gly Asp Asp
100 105 110

Leu Ile Leu
115

<210> 8

<211> 123

<212> PRT

<213> Propionibacterium shermanii

<400> 8

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Asp Val Asp Lys Ser His Glu Asn Pro Met Gly Thr Ile Leu Phe Gly
20 25 30

Gly Gly Thr Gly Gly Ala Pro Ala Pro Arg Ala Ala Gly Gly Ala Gly
35 40 45

Ala Gly Lys Ala Gly Glu Gly Glu Ile Pro Ala Pro Leu Ala Gly Thr
50 55 60

Val Ser Lys Ile Leu Val Lys Glu Gly Asp Thr Val Lys Ala Gly Gln
65 70 75 80

Thr Val Leu Val Leu Glu Ala Met Lys Met Glu Thr Glu Ile Asn Ala
85 90 95

Pro Thr Asp Gly Lys Val Glu Lys Val Leu Val Lys Glu Arg Asp Ala
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Val Gln Gly Gly Gln Gly Leu Ile Lys Ile Gly
115 120

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<211> 122

<212> PRT

<213> Homo sapiens

<400> 9

Gly Ser Cys Val Glu Val Asp Val His Arg Leu Ser Asp Gly Gly Leu
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Leu Leu Ser Tyr Asp Gly Ser Ser Tyr Thr Thr Tyr Met Lys Glu Glu
20 25 30

Val Asp Arg Tyr Arg Ile Thr Ile Gly Asn Lys Thr Cys Val Phe Glu
35 40 45

Lys Glu Asn Asp Pro Ser Val Met Arg Ser Pro Ser Ala Gly Lys Leu
50 55 60

Ile Gln Tyr Ile Val Glu Asp Gly Gly His Val Phe Ala Gly Gln Cys

65

70

75

80

Tyr Ala Glu Ile Glu Val Met Lys Met Val Met Thr Leu Thr Ala Val
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Glu Ser Gly Cys Ile His Tyr Val Lys Arg Pro Gly Ala Ala Leu Asp
100 105 110

Pro Gly Cys Val Leu Ala Lys Met Gln Leu
115 120

<210> 10
<211> 156
<212> PRT
<213> Escherichia coli

<400> 10

Met Asp Ile Arg Lys Ile Lys Lys Leu Ile Glu Leu Val Glu Glu Ser
1 5 10 15

Gly Ile Ser Glu Leu Glu Ile Ser Glu Gly Glu Glu Ser Val Arg Ile
20 25 30

Ser Arg Ala Ala Pro Ala Ala Ser Phe Pro Val Met Gln Gln Ala Tyr
35 40 45

Ala Ala Pro Met Met Gln Gln Pro Ala Gln Ser Asn Ala Ala Ala Pro
50 55 60

Ala Thr Val Pro Ser Met Glu Ala Pro Ala Ala Glu Ile Ser Gly
65 70 75 80

His Ile Val Arg Ser Pro Met Val Gly Thr Phe Tyr Arg Thr Pro Ser
85 90 95

Pro Asp Ala Lys Ala Phe Ile Glu Val Gly Gln Lys Val Asn Val Gly
100 105 110

Asp Thr Leu Cys Ile Val Glu Ala Met Lys Met Met Asn Gln Ile Glu
115 120 125

Ala Asp Lys Ser Gly Thr Val Lys Ala Ile Leu Val Glu Ser Gly Gln
130 135 140

Pro Val Glu Phe Asp Glu Pro Leu Val Val Ile Glu
145 150 155

<210> 11
<211> 216
<212> DNA
<213> Klebsiella pneumoniae

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<212> DNA
<213> Mus musculus

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<211> 369
<212> DNA
<213> Propionibacterium shermanii

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aagatcggc 369

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<211> 366
<212> DNA
<213> Homo sapiens

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tatgcagaga	ttgaggtaat	gaagatggta	atgacttga	cagctgtgga	300
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<212> PRT					
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<400> 16					

Asp Tyr Lys Asp Asp Asp Lys
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<211> 8					
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<400> 17					

Asp Tyr Lys Asp Glu Asp Asp Lys
1 5

<210> 18
<211> 9
<212> PRT
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<220>
<223> Strep epitope

<400> 18

Ala Trp Arg His Pro Gln Phe Gly Gly
1 5

<210> 19
<211> 11
<212> PRT
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<220>
<223> VSV-G epitope

<400> 19

Tyr Thr Asp Ile Glu Met Asn Arg Leu Gly Lys
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<210> 20
<211> 6
<212> PRT
<213> Artificial

<220>
<223> poly-His epitope

<400> 20

His His His His His His
1 5

<210> 21
<211> 13
<212> PRT
<213> Artificial

<220>
<223> Influenza epitope

<400> 21

Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Ile Glu Gly Arg
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<220>
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<400> 22

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<210> 23
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<223> tripeptide epitope

<400> 23

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<400> 24

Asp Asp Asp Asp Lys
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<210> 25
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<222> (177) .. (464)

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gataacaatt cccctctaga aataattttg tttaacttta agaaggagat atacat atg
Met 179

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Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys
5 10 15

gtg ctg gcc agc gaa ggc cag acg gtg gcc gca ggc gag gtg ctg ctg 275
Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu Leu
20 25 30

att ctg gaa gcc atg aag atg gaa acc gaa atc cgc gcc gcg cag gcc 323
Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala
35 40 45

ggg acc gtg cgc ggt atc gcg gtg aaa gcc ggc gac gcg gtg gcg gtc 371
Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Val
50 55 60 65

ggc gac acc ctg atg acc ctg gcg ggc tct gga tcc gat ctg tac gac 419
Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp
70 75 80

gat gac gat aag gga att atc aca agt ttg tac aaa aaa gca ggc tnn 467
Asp Asp Asp Lys Gly Ile Ile Thr Ser Leu Tyr Lys Lys Ala Gly
85 90 95

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<211> 96
<212> PRT
<213> Artificial

<220>
<223> pET104-DEST vector

<400> 26

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20 25 30

Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln
35 40 45

Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala
50 55 60

Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr
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Asp Asp Asp Asp Lys Gly Ile Ile Thr Ser Leu Tyr Lys Lys Ala Gly
85 90 95

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<212> DNA
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<222> (177) .. (449)

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gataacaatt cccctctaga aataattttg tttaacttta agaaggagat atacat atg 179
Met
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Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys
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Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu Leu
20 25 30

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Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala
35 40 45

ggg acc gtg cgc ggt atc gcg gtg aaa gcc ggc gac gcg gtg gcg gtc 371
Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Val
50 55 60 65

ggc gac acc ctg atg acc ctg gcg ggc tct gga tcc gat ctg tac gac 419
Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp
70 75 80

gat gac gat aag gga att gat ccc ttc acc 449
Asp Asp Asp Lys Gly Ile Asp Pro Phe Thr
85 90

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Lys Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu

20

25

30

Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln
35 40 45

Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala
50 55 60

Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr
65 70 75 80

Asp Asp Asp Asp Lys Gly Ile Asp Pro Phe Thr
85 90

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ggagacccaa gctggctagc gtttaaactt aagcttacc atg ggc gcc ggc acc 174
Met Gly Ala Gly Thr
1 5

ccg gtg acc gcc ccg ctg gcg ggc act atc tgg aag gtg ctg gcc agc 222
Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys Val Leu Ala Ser
10 15 20

gaa ggc cag acg gtg gcc gca gag gtg ctg ctg att ctg gaa gcc 270
Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu Leu Ile Leu Glu Ala
25 30 35

atg aag atg gaa acc gaa atc cgc gcc gcg cag gcc ggg acc gtg cgc 318
Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala Gly Thr Val Arg
40 45 50

ggt atc gcg gtg aaa gcc ggc gac gcg gtg gcg gtc ggc gac acc ctg 366
Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Gly Asp Thr Leu

55 60 65 414
atg acc ctg gcg ggc tct gga tcc gat ctg tac gac gat gac gat aag
Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp Asp Asp Asp Lys
70 75 80 85 450
gta cat caa aca agt ttg tac aaa aaa gca ggc tnn
Val His Gln Thr Ser Leu Tyr Lys Lys Ala Gly
90 95

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Lys Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu
20 25 30

Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln
35 40 45

Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala
50 55 60

Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr
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ggagacccaa gctggctagc gtttaaactt aagcttacc atg ggc gcc ggc acc Met Gly Ala Gly Thr 1 5	174
ccg gtg acc gcc ccg ctg gcg ggc act atc tgg aag gtg ctg gcc agc Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys Val Leu Ala Ser 10 15 20	222
gaa ggc cag acg gtg gcc gca ggc gag gtg ctg ctg att ctg gaa gcc Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu Leu Ile Leu Glu Ala 25 30 35	270
atg aag atg gaa acc gaa atc cgc gcc gcg cag gcc ggg acc gtg cgc Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln Ala Gly Thr Val Arg 40 45 50	318
ggt atc gcg gtg aaa gcc ggc gac gcg gtg gcg gtc ggc gac acc ctg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala Val Gly Asp Thr Leu 55 60 65	366
atg acc ctg gcg ggc tct gga tcc gat ctg tac gac gat gac gat aag Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp Asp Asp Asp Lys 70 75 80 85	414
gta cct agg atc cag tgt ggt gga att gat ccc ttc acc Val Pro Arg Ile Gln Cys Gly Ile Asp Pro Phe Thr 90 95	453
 <p><210> 32 <211> 98 <212> PRT <213> Artificial</p> <p><220> <223> pcDNA6/Biotag/D-TOP</p> <p><400> 32</p> <p>Met Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp 1 5 10 15</p> <p>Lys Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu 20 25 30</p> <p>Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln 35 40 45</p> <p>Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala 50 55 60</p> <p>Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr 65 70 75 80</p> <p>Asp Asp Asp Asp Lys Val Pro Arg Ile Gln Cys Gly Gly Ile Asp Pro 85 90 95</p>	

Phe Thr

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catatgtggt acgcaagtaa gagtgccctgc gcatgccccca tgtgccccac caagagtttt 180
gcatccata caagtccccca aagtggagaa ccgaaccaat tcttcgcggg cagaacaaaa 240
gcttctgcac acgtctccac tcgaatttgg agccggccgg cgtgtgcaaa agaggtgaat 300
cgaacgaaag acccgtgtgt aaagccgcgt ttccaaaatg tataaaaccg agagcatctg 360
gccaatgtgc atcagttgtg gtcagcagca aaatcaagtg aatcatctca gtgcaactaa 420
aggggggatc tagcgtttaa acttaagctt acc atg ggc gcc ggc acc ccg gtg 474
Met Gly Ala Gly Thr Pro Val
1 5

acc gcc ccg ctg gcg ggc act atc tgg aag gtg ctg gcc agc gaa ggc 522
Thr Ala Pro Leu Ala Gly Thr Ile Trp Lys Val Leu Ala Ser Glu Gly
10 15 20

cag acg gtg gcc gca ggc gag gtg ctg ctg att ctg gaa gcc atg aag 570
Gln Thr Val Ala Ala Gly Glu Val Leu Leu Ile Leu Glu Ala Met Lys
25 30 35

atg gaa acc gaa atc cgc gcc gcg cag gcc ggg acc gtg cgc ggt atc 618
Met Glu Thr Glu Ile Arg Ala Ala Gln Ala Gly Thr Val Arg Gly Ile
40 45 50 55

gcg gtg aaa gcc ggc gac gcg gtg gtc ggc gac acc ctg atg acc 666
Ala Val Lys Ala Gly Asp Ala Val Ala Val Gly Asp Thr Leu Met Thr
60 65 70

ctg gcg ggc tct gga tcc gat ctg tac gac gat gac gat aag gta cat 714
Leu Ala Gly Ser Gly Ser Asp Leu Tyr Asp Asp Asp Asp Lys Val His
75 80 85

caa aca agt ttg tac aaa aaa gca ggc tnn 744

Gln Thr Ser Leu Tyr Lys Lys Ala Gly
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Met Gly Ala Gly Thr Pro Val Thr Ala Pro Leu Ala Gly Thr Ile Trp
1 5 10 15

Lys Val Leu Ala Ser Glu Gly Gln Thr Val Ala Ala Gly Glu Val Leu
20 25 30

Leu Ile Leu Glu Ala Met Lys Met Glu Thr Glu Ile Arg Ala Ala Gln
35 40 45

Ala Gly Thr Val Arg Gly Ile Ala Val Lys Ala Gly Asp Ala Val Ala
50 55 60

Val Gly Asp Thr Leu Met Thr Leu Ala Gly Ser Gly Ser Asp Leu Tyr
65 70 75 80

Asp Asp Asp Asp Lys Val His Gln Thr Ser Leu Tyr Lys Lys Ala Gly
85 90 95